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**Gätke's Birds of Heligoland.**—No work since the days of Audubon has come to my notice which has interested me to the same extent as this wonderfully instructive book. One reason for this is that the knowledge I have acquired regarding some of our birds has been gleaned during my long experience as a sportsman on the Atlantic seaboard. (It is now many years since I learned that the most successful way of securing birds is through a knowledge of their habits.) I cannot therefore fail to recognize and appreciate how dwarfed become the observations of the ordinary observer in comparison with the life work of Mr. Gätke, who has for half a century so patiently gathered the facts he now sets before the ornithologists of both continents. It seems impossible to read Gätke's book without being impressed with the importance of his many years of painstaking research, and his originality and boldness of thought. As Dr. Coues has rightly written in his review of this book in the last number of 'The Auk' (Vol. XII, p. 322), 1895: "There is no Heligoland but Heligoland, and Gätke is its prophet." It is nevertheless equally true that all of the statements contained in this work cannot be accepted as facts, as far as they relate to North American birds. For this reason I desire to call the attention of American readers of the book, as well as others, to certain of the author's claims regarding some American birds which he refers to in illustration of certain of his statements. I do this with the greatest deference.

On page 16, five lines from the foot of the page, we read: "When one thinks of numbers of individuals such as these, which cannot be grasped by human intelligence, it seems absurd to talk of a conceivable diminution in the number of birds being effected through the agency of man." In North America, such a statement, in my opinion, can scarcely be assented to, as witness the destruction of American Golden Plovers (*Charadrius dominicus*), Eskimo Curlews (*Numenius borealis*), and Bartramian Sandpipers (*Bartramia longicauda*), as also other species, in the Mississippi Valley during the spring migration to their northern breeding grounds. Also witness the fabulous quantities of eggs of the Water-birds taken in the far Northwest, as also on the Northeast coasts of North America.

On page 44 he says: "We have stated in the course of this chapter that birds perform the journey from their winter quarters to the breeding stations, if possible, in one uninterrupted flight." In North America, as far as my observation shows, the reverse is the case with some of the Water-birds. The American Golden Plovers, Eskimo Curlews, Bartramian Sandpipers, and Black-bellied Plovers (*Charadrius squatarola*) all linger in the Mississippi Valley, and the last named on the Atlantic coast, on their way to their breeding grounds.

On page 51, in writing of Diving Ducks, etc., he says: "All these birds when alive and undisturbed (as also do their carcasses) float so lightly on the water that they scarcely make any noticeable depression in it." I have always regarded the three varieties of Scoters (*Oidemia americana*,

*O. deglandi*, *O. perspicillata*), the American Eider (*Somateria dresseri*), Double-crested Cormorant (*Phalacrocorax dilophus*), Canvas-back Duck (*Aythya vallisneria*), and Loon (*Urinator imber*), as well as some others, as noticeably deep swimmers, and not very buoyant when dead and floating.

On page 69: "The distance between the coasts of the two countries [Labrador and northern Brazil], amounts to three thousand two hundred geographical miles, and since there is along this whole stretch of route not a single point on which the travellers could alight for rest, they are obliged to perform the whole length of this enormous journey in one uninterrupted flight." After coming down from the shores of the Arctic Ocean and the region above forest growth, their breeding home, the American Golden Plovers (as do also the Eskimo Curlews) collect in the vicinity of Labrador, where they rest a while, becoming very fat. From there they set out on their prolonged southern migration, steering boldly out to sea after leaving Nova Scotia. I believe they can, under favorable conditions, make the entire distance to their objective point, the Argentine Republic and Patagonia, in practically one flight, but if during such passage they require rest, they can easily obtain it by alighting on the ocean. This they do, being good swimmers. Neither are they exceptional in this respect, many others doing the same. As an instance in illustration one of my shooting acquaintances while fishing one day about three miles off the coast of Massachusetts observed a flock of a dozen or fifteen Pectoral Sandpipers (*Tringa maculata*) passing; on whistling to them they abruptly turned from their course in response to his call, and flying towards his boat, whirled up into the wind and *alighted on the ocean*. After swimming around a short time they arose without effort, and, each bird giving its feathers a shake, proceeded on their way.

On page 101, he quotes Palmen as saying: "Direct observations in nature have yielded the result that among flocks of migrants the older and stronger individuals are in general the leaders of the migratory host"; and adds: "He [Palmen] could not, however, have begun the treatment of this question with a more unfortunate assertion; for there is no one who has ever made observations which might support this view." I have made observations for a good many years on the Atlantic coast of North America, and I have particularly noticed many times during the migration northward of the Surf Scoters (*Oidemia perspicillata*) in April, that many of the larger flocks of fifty to one hundred birds, are led by a full plumaged adult drake. The white markings on the head and neck, highly colored bill, and glossy black plumage render a mistake in identification unlikely.

Page 102, he thus formulates his conclusions on this subject: "1. That under normal conditions in the case of the three hundred and ninety-six species occurring here, with the exception of a single one, the autumn migration is initiated by the young birds, from about six to eight weeks after leaving their nests. 2. That the parents of these young individuals

do not follow till one or two months later." Taking the American Golden Plover again as an illustration, I must say that without a single exception my observations show results directly opposite, the adults always preceding the younger birds, usually from one to three weeks. It is not unusual for the adults and young to migrate together, but I have no knowledge of the young arriving first on the New England coast. A few examples from my note book may not be out of place. On the night of Sept. 11, 1889, amidst rain, fog, and southeast wind, Eskimo Curlews and Golden Plovers, with a few young birds of the latter, landed on Nantucket Island, Massachusetts. On August 25, wind fresh south by east, and night of the 26th, 1892, there was a large flight of adult American Golden Plovers (the second large flight of this month), some two hundred and seventy-five of which were shot. It was not until September 1 that the first young bird of the season was noted; the first flock (about 25 birds) was noticed on September 3, two of which were shot. On September 15, I noticed two flocks of young birds containing thirty and twenty-five birds respectively. The larger flock, after mounting high up in a spiral way and circling, headed southwest on migration. There was not one black and white breasted bird in that flock, and this goes to prove that these young birds can, if necessary, migrate by themselves. But according to my observations, most of the flocks of young birds that land on the island of Nantucket while on their southern migration (they never return via the Atlantic coast in the spring) contain one or more adults, that is, until *late* in the season and the old birds have passed by, at which time we find few, if any, adults in the flocks with the young birds. Neither do the young birds seem to care to join at this later date with the adults, if there are any living in the vicinity. On September 11, 1894, I shot eleven young birds, the first noted that season. They must have landed the previous night, as all those previously seen were black and white breasted birds, of which I shot fifteen on the 27th of August. In 1888, up to September 8, a friend and I had shot seventy-three black and white breasted birds, but did not see a young bird until that date. On the night of September 24 or 25, 1882, over one thousand young Golden Plovers (Palebellies) landed on Nantucket Island during a northeast rain storm. I shot forty-nine of them the next day. Not a single black and white breasted bird passed me that day, nor did I hear of one being shot. I instance this out of regard for Mr. Gätke's view, that the young birds can and do migrate by themselves. I might give many more instances of the case in point, but they would be only repetitions with other dates.

Again, page 471, with reference to his statements respecting *Charadrius squatarola*, I may say that with us, the adults arrive first in the middle of July, while it is not usual to see more than scattering young birds before the first week in September (see Auk, Vol. X, p. 79). Again (see Gätke, page 499), the adult Knots (*Tringa canutus*) with us precede the young, the former appearing during the latter part of July, the young from the latter part of August to September 10.

On this coast, as far as I know, the adults of the Eskimo Curlew (*Numenius borealis*) arrive first. I merely mention it, as this bird is very closely allied to the Whimbrel (*Numenius phaeopus*) (see Gätke, page 460). This is also the case with the Hudsonian Curlew.

Judging from the twenty-five years' shooting experience of one of my friends at one of the larger fresh water ponds in Massachusetts, where the shooting of Canada Geese (*Branta canadensis*) has been made a specialty, it appears that they migrate in broods. It makes little difference how many birds may be travelling in company, for on alighting in the pond (unless in very stormy weather) they separate, each gander and goose with their young keeping together, the gander leading.

My observations in relation to rate of speed and length of flight lead me to believe that under very favorable conditions, such as flying before a very strong wind, such birds as the American Golden Plover and Eskimo Curlew for instance, will attain a speed of one hundred and fifty to two hundred miles an hour. It is consequently not inconceivable to me that under such favorable conditions they are able to reach the Argentine Republic or Patagonia in one flight, or with a possible rest on the ocean. Hence I cannot regard a flight, under favorable circumstances across the Atlantic ocean, as any great hardship to many of our birds.—  
GEORGE H. MACKAY, *Nantucket, Mass.*

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## CORRESPONDENCE.

### The Soaring of Birds and Currents of Air.

TO THE EDITORS OF 'THE AUK':—

*Dear Sirs,*—Allow me to call the attention of ornithologists to the following question in which ornithology and meteorology join hands.

In recent years, wind vanes have been devised to indicate the vertical component of the wind's motion, and it has been shown that there is a significant variation in the strength of this component in various kinds of weather. It has long been known that the diurnal variation of wind velocity on land was due to local convectional ascending and descending currents, these varying greatly at different times and places, according to the nature of the land surface, the strength of sunshine, etc.

In recent years, attention has frequently been called to the importance of vertical currents in air movement as an aid in the flight of birds, Professor Langley's studies being perhaps the most important in this direction.